Library of California

CALIFORNIA STATE LIBRARY

Z39.50 SERVER SOFTWARE GRANT APPLICATION
FY 1999/00

BACKGROUND AND INSTRUCTIONS
Z39.50 SERVER SOFTWARE GRANTS

A long list of Internet resources related to Z39.50 may be found at:
http://www.ilrt.bris.ac.uk/discovery/z3950/resources/

The Z39.50 Standard

The Z39.50 standard was developed as a tool for accessing large databases. Libraries have adopted it to search library catalogs and other online databases. Simply stated, Z39.50 provides a common ground for searching disparate and diverse systems, without the need to learn the proprietary search interface of each system. The protocol addresses the communications between the user and the system being searched.

The ability for different systems to search each other is of no use without a means for them to telecommunicate. Z39.50 users and systems most commonly use the Internet and its telecommunications protocols. The system asking for the information is known as the <u>client</u> and the system being queried is the <u>server</u>. Another way to think of this relationship is that the system generating the query is the Origin and the system being queried is the Target.

While Z39.50 defines the exchange of information between the client and the server, it does not define the "user interface", or look and feel of the search screens and commands. There are many types of client systems -- some text-based and some graphical. Some search clients may be part of a larger system, such as a library's Online Public Access Catalog, and others may be on a separate system that functions as a gateway to one or more catalog servers.

The principal benefit of Z39.50 is that a user can search one or more "foreign" systems without having to know their proprietary search interface. In many cases, users can also "broadcast" their searches to many systems at the same time.

There are also some limitations in using Z39.50, as opposed to searching a local library online catalog:

- Z39.50 searches are key word based, even when searching is limited to specific fields, such as author, title, and subject. Therefore, results may not be as predictable or as narrowly defined as users would like.
- Z39.50 searches may use system indexes (e.g., author, title, subject) in different ways than the local online catalog. For example, author searches may not include corporate authors unless the index that Z39.50 uses includes them. It may be necessary to re-index the library's database to effectively use Z30.50.
- Compared to library online public access catalogs, users may not be able to do as many types of searches, and may not be able to use as many qualifiers and truncation symbols.
- Depending upon the version of Z39.50 installed on both the client and server, it may not be possible to display holdings and shelf-status information.
- While the Z39.50 protocol does support a number of sophisticated searching and retrieval techniques, its implementation varies from vendor-to-vendor and system-to-system. It can be time-consuming and frustrating to implement Z39.50 on a server.

Purchasing Z39.50 software

Not every library automation system is capable of supporting the Z39.50 standard. In some cases the software is simply not available for a particular configuration of hardware and software. In other cases there are insufficient system resources available, such as memory, or disk space. The library must take the responsibility to approach the vendor of their automation system and ask about installing the software on their system. This cost of installation should include the software, its installation and configuration, training of staff, and ongoing maintenance. It may also include re-indexing your database to make searching more efficient. **It is required that a library obtain a written quotation from its automation system vendor before applying for the Z39.50 grant**! Please submitting a copy of this quotation with the application.

Please note that the Z39.50 software supports the cost of server software. The purpose of the grant is to help other libraries **search your catalog**. Any funding that is left over after the purchase of server software can be used to purchase client software (so you can search other libraries' catalogs), telecommunications, network security, or other related items.

Internet Connectivity

To allow remote Z39.50 clients to search your catalog, you must have an Internet connection to your server. Typically this means mounting the server on a network that has an Internet gateway, but in some cases it means bringing an Internet connection directly to the server. The connection requires a fixed I.P. (Internet Protocol) address so remote clients can find your server. It must also be available 24-hours per day, 7-days per week, or as close to that as possible. The minimum requirement for a Z39.50 server is a 56K direct connect, assuming no other network workload. You should discuss the availability and speed of Internet access with your system administrator or network manager/engineer before applying for a Library of California Z39.50 grant.

Network Security

When your network manager learns that you want to connect your library server to the Internet they may express strong concerns regarding system security. Leaving a computer on the Internet without any provisions for securing it is asking for trouble. There are many ways in which the security issue can be addressed. Some of them are simple, and others are more complex. Unfortunately, some of the simple security measures are in conflict with the desire to have the library catalog searched by remote clients.

One method for restricting access to a system is to only allow inbound Internet traffic from a known address. The term for this technique is "I.P. filtering". It works fine if you know the address of a client system. However, since the goal of this project is to make the server open to many remote users, I.P. filtering will not work because the remote user I.P. address may not be known. The solution is to provide a more sophisticated level of security, such as an Internet firewall. This will cost more, but it will allow remote users to search your system without allowing for other types of remote intrusion.

It is important that you discuss these security issues with your vendor support staff, network manager or system administrator. You will need to develop a plan that ensures the security of your system while allowing for remote access. If you cannot develop such a plan, please do not apply for a grant.

Project Goals

It is the intention of the Library of California Board that libraries receiving these grants will open their catalogs to statewide access to create a virtual statewide database. The purpose of the Library of California Z39.50 Server Software program is to promote resource sharing through the development of a statewide infrastructure of library catalogs available through the Z39.50 protocol. It is assumed, therefore, that the applicant library is interested in, and capable of, providing resource-sharing services such as interlibrary loan with other libraries. Evidence of such resource sharing activity or interest is requested in the application form and will be an important factor in determining the grant award.

GRANT APPLICATION INSTRUCTIONS

Up to one hundred grants at $7,500 each have been authorized by the Library of California Board to purchase Z39.50 server software for local library automation systems. Z39.50 server software is installed on the local library automation server to allow remote Z39.50 clients to search MARC bibliographic and other files.

There is no deadline for the submission of applications. Grants will be awarded continuously until funding is exhausted. Additional funds may be provided at the discretion of the Library of California Board.

The grant application is available as an Adobe Acrobat file on the Library of California website at http://www.library.ca.gov/loc. The file can be downloaded and used to complete the grant application.

The grant application has two parts. Both should be submitted:

Part 1:   Interim Eligibility Form
Part 2:   Technical Eligibility Form

PART 1

INTERIM ELIGIBIILTY

To be eligible for a $7,500 block grant for Z39.50 server software, your library <u>must</u> meet the Library of California Interim Eligibility Requirements. Read through these requirements carefully. If your library does not meet all the requirements you will not be eligible to receive this grant and should not submit the application.

1.   *LIBRARY OF CALIFORNIA INTERIM ELIGIBILITY*
       Complete the form which includes basic eligibility requirements that are modeled after those in the Education Code Section 18830(a). The Library of California Board February 24, 1999 adopted the Interim Eligibility Standards at its meeting on February 24, 1999. In order to be eligible all basic requirements outlined in the form must be met.

       <u>BASIC ELIGIBILITY STANDARD</u>

       All participating libraries must meet the basic standard as defined in the law in Education Code Section 18830(a).

       Article 4. Eligible Libraries

       …a participating library…meets the following eligibility standards:

(1)   A written explicit mission statement and service objectives.
(2)   A fixed location in California.
(3)   Established hours of service.
(4)   An organized collection of information and materials accessible for use by its primary clientele.
(5)   Designated, onsite, paid staff for library services, at least one of whom shall have a master's degree in library or information science or a California library media teacher credential issued by the Commission on Teacher Credentialing, but equivalent graduate education or demonstrated professional experience may be substituted for this requirement…
(6)   An established funding base.

The board of governance or the appropriate administrative authority for each academic library, public library, school library and special library…shall agree not to reduce funding for library services as a result of… participation.

Screening Elements

Check all elements that apply regarding prior participation in resource sharing programs, geographic location, and type of library. These additional screening criteria may be used to prioritize applications or for program reporting.

Certification

Return Part 1 with at least one original signature from an appropriate administrative authority.

PART 2

TECHNICAL ELIGIBILITY

Checklist

Check all elements that apply. In order to be eligible all elements must be met.

If your library is unable to meet all the technical eligibility requirements, do not complete the remainder of the application, as your library will not be eligible for funds under this grant program.

Narrative

A.   EXPECTED BENEFITS

Include responses to each of the items, but they need not be lengthy. Please provide simple, concise responses to each question.

B.   WORKPLAN AND IMPLEMENTATION CALENDAR

Include responses to each of the items, but they need not be lengthy. Please provide simple, concise responses to each question. Applicants are expected to implement the Z39.50 server software on the local automated system within six months following the receipt of the award.

Certification

Return Part 2 with at least one original signature from an appropriate administrative authority.

Tasks to be Completed During the Grant Period

If your library is selected to receive a grant of $7,500, you will be required to complete the following tasks within six months following receipt of the grant:

- Installation and testing of the Z39.50 server software on the local automated system.
- Assignment of at least 5% of the total available ports/sessions for incoming access by remote users,
- Submission of the server's I.P. address and URL to the California State Library for testing and establishment of a public database of server resources in California.
- Final project report

If these requirements are not acceptable to your library, please do not submit a grant application.

GRANT APPLICATION SUBMISSION

Return four copies of the Z39.50 SERVER SOFTWARE GRANT APPLICATION, one with original signature and marked "original" to:

Joyce Walker
Library of California
California State Library-LDS
P.O. Box 942837
Sacramento, CA 94237-0001

Grant applications may not be submitted by fax.

<u>QUESTIONS OR ASSISTANCE WITH GRANT APPLICATION</u>

Call Ira Bray, Electronic Information Resources Consultant at (916) 653-0171 or by e-mail at <u>ibray@library.ca.gov</u>.